

NATURAL HISTORY MISCELLANEA

Published by
The Chicago Academy of Sciences
Lincoln Park - 2001 N. Clark St., Chicago 14, Illinois

No. 75

December 15, 1950

Hibernation of Blue Racers and Bull Snakes in Western Illinois

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A snake den discovered by Burton Hanson of Moline and the writer on October 1, 1949, six miles west of Cordova, Rock Island County, Illinois, was in an area of sand dunes and scrub growth extending over several square miles, known locally as the "Jackals." It was situated at the north rim of a large dune riddled with abandoned burrows of mammals. Four blue racers, *Coluber constrictor flaviventris* (Say), and four bull snakes, *Pituophis catenifer sayi* (Schlegel), were collected in and near the den at that time. Other reptiles previously obtained there and apparently peculiar to the area are six-lined racerunners (*Cnemidophorus sexlineatus*), western hog-nosed snakes (*Heterodon nasicus*), and box turtles (*Terrapene ornata*).

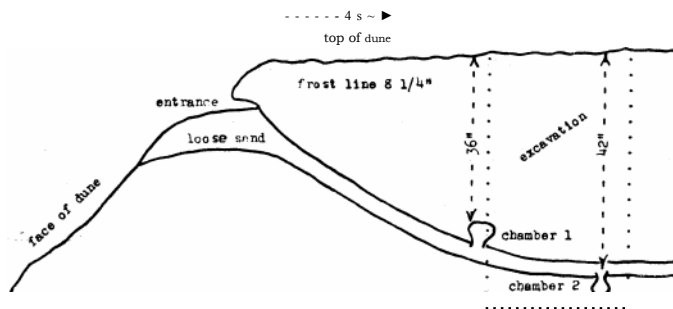


Figure 1. Diagram of excavation of den.

The den was excavated on February 11, 1950, by W. B. Schroder, Dale and Bruce Holmgrain, and the writer. The air temperature was 37° F and the surface of the sand was clear and dry. Excavation was begun by digging straight down from the top of the dune 48 inches back from the entrance.

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Frost line was 8 $\frac{1}{4}$ inches below the surface. The burrow, probably made by some mammal, was cut at a depth of 36 inches and the tunnel at that point was about 6 inches in diameter. It was loosely filled with dry sand. The temperature of the sand at this depth was 44° F. A chamber approximately 12 inches in diameter (probably a turn-around or place for storing food of the former occupant) was broken open (Chamber 1, Fig. 1). It contained five blue racers and two bull snakes, all adults, intertwined in a tight ball completely filling the chamber. The temperature of the snakes was also approximately 44° F. At a distance of 24 inches farther back along the tunnel and 42 inches from the surface, a second chamber about 7 inches in diameter was found (Chamber 2, Fig. 1). It contained two blue racers and three bull snakes, all juveniles, entwined as were the adults. All of the snakes were capable of some movement and although slightly emaciated they appeared otherwise to be in excellent condition. They are now preserved specimens in the collection of the writer.

Measurements are given in the following table.

Snakes from Chamber 1

<i>Coluber</i>	Total Length	<i>Pituophis</i>	Total Length
1. ♂	924 mm.		
2. ♂	1080 mm.		
3. ♂	1149 mm.		
4. ♀	1067 mm.	1. ♂	1295 mm.
5. ♂	959 mm.	2. ♂	1226 mm.

Snakes from Chamber 2

<i>Coluber</i>	Total Length	<i>Pituophis</i>	Total Length
		1. ♀	543 mm.
1. ♀	826 mm.	2. ♀	537 mm.
2. ♀ *	809 mm.	3. ♀	965 mm.

*Retains juvenile ventral pattern.